

**SYSTEMS AND METHODS WHEREIN PAYMENT IS
PROVIDED TO A HOMEOWNER IN EXCHANGE FOR ALLOWING
INFORMATION ABOUT A HOME TO BE TRANSMITTED**

CROSS-REFERENCE TO RELATED DOCUMENTS

The present application is related to the subject matter of U.S. Patent No. 5,884,272 entitled "METHOD AND SYSTEM FOR ESTABLISHING AND
5 MAINTAINING USER-CONTROLLED ANONYMOUS COMMUNICATIONS," U.S. Patent No. 5,794,207 entitled "METHOD AND APPARATUS FOR A CRYPTOGRAPHICALLY ASSISTED COMMERCIAL NETWORK SYSTEM DESIGNED TO FACILITATE BUYER-DRIVEN CONDITIONAL PURCHASE OFFERS," and commonly-owned, co-pending U.S. Patent Application Serial No.
10 09/285,472, filed April 2, 1999 and entitled "SYSTEM AND METHOD FOR DETERMINING A POSTING PAYMENT AMOUNT." The entire contents of these documents are hereby incorporated by reference.

FIELD OF THE INVENTION

The present invention relates to home viewing systems and more particularly, to systems and methods wherein payment is provided to a homeowner in exchange for allowing information about a home to be transmitted.

BACKGROUND

Traditionally, a homeowner who is interested in selling a home uses a real estate broker to market and sell the home. The homeowner generally agrees to pay the real estate broker a fee equal to a percentage (generally 4%-7%) of the selling price of the
25 home. In return, the real estate broker markets the home and shows the home to potential buyers. The real estate broker also conducts "open houses" that invite the public to visit and inspect the home.

Real estate brokers also offer a Multiple Listing Service ("MLS") that lists all participating homes currently on the market in a given geographic area. Real estate

brokers participating in the MLS are entitled to a commission for selling a home listed with the MLS even if the home is listed with another broker.

In addition, an individual looking to purchase a home often also solicits the assistance of a real estate broker. The real estate broker shows the individual a number of homes based on the individual's preferences. The individual's selection is limited to homes that are currently on the market to be sold. Thus, potential buyers do not have access to all the homes they may be interested in buying or viewing. The limited number of homes on the market also limits the ability of a real estate broker to determine the potential buyer's preferences when choosing a home.

An online real estate service is an alternative to a traditional real estate broker. The online real estate service lets a homeowner list a home for sale and encourages a potential buyer to use a Web site to search for a new home. Typical online real estate brokers require homeowners to pay a fee listing a home, and potential buyers may subscribe to the online service to access the homes for sale. An online real estate service may also offer virtual tours of homes for sale as well as details about the homes.

Generally, real estate services are directed only to homeowners who are interested in selling their homes, resulting in an untapped market for homes that are not for sale (and most homes are not on the market to be sold). Moreover, a homeowner who does not put his or her home on the market to be sold currently has no convenient way to gauge demand for his or her home. As a result, it may not be possible to determine how willing such a homeowner would be to sell his or her home if a potential buyer was found. In addition, a potential buyer may not be able to evaluate homes that are not on the market to be sold and express interest in those homes.

SUMMARY

The present invention provides systems and methods wherein payment is provided to a homeowner in exchange for allowing information about a home to be transmitted. It is arranged for a homeowner who owns a home to receive compensation in exchange for allowing home information about the home to be transmitted. The compensation is based on compensation information associated with the home. It is further arranged for the home information to be transmitted to a viewer.

It is an object of an embodiment of the present invention to provide systems and methods for receiving a homeowner's agreement to allow a picture of a home to be transmitted (e.g., to a viewer such as a potential buyer). A payment, based on compensation information associated with the home, may be provided to the homeowner in exchange for the agreement. It is also an object of an embodiment of the present invention to provide systems and methods that enable a potential home buyer to view a home that is not for sale.

In accordance with an embodiment of the present invention, a homeowner, who may not wish to sell his or her home, allows a picture of his home to be displayed anonymously and remotely. The homeowner is compensated in exchange for allowing the picture of the home to be displayed. The compensation may comprise a payment that is based on information associated with the home (e.g., how many viewers view the picture of the home or the appraised value of the home).

According to some embodiments of the present invention, the viewer (e.g., a potential buyer) pays a fee for viewing the picture.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention is described in detail below with reference to the following figures of which:

FIG. 1 is a block diagram of a remote home viewing system in accordance with the present invention;

FIG. 2 is a block diagram of a viewer device or a homeowner device in accordance with an embodiment of the present invention;

FIG. 3 is a block diagram of a central server of the remote home viewing system of FIG. 1;

FIGS. 4A and 4B are an illustration of a database table referred to as the home database in FIG. 3;

FIG. 5 is an illustration of a database table referred to as the picture database in FIG. 3;

FIG. 6 is an illustration of a database table referred to as the viewer database in FIG. 3;

FIG. 7 is an illustration of a database table referred to as the collected demand database in FIG. 3;

FIG. 8 is a flowchart that illustrates the operations carried out for receiving and transmitting information associated with a homeowner's home according to an embodiment of the present invention;

FIG. 9 is a flowchart that illustrates the operations carried out for storing a homeowner's home records in the home database according to an embodiment of the present invention;

FIGS. 10A-10B are a flowchart that illustrates operations carried out for displaying pictures stored in the picture database in FIG. 3;

FIG. 11 is a flowchart that illustrates the operations carried out for providing a payment to a homeowner according to an embodiment of the present invention;

FIGS. 12A-12B are a flowchart that illustrates operations carried out for storing and displaying video images of a homeowner's home according to an embodiment of the present invention;

FIGS. 13A-13B are a flowchart that illustrates operations carried out for collecting demand according to an embodiment of the present invention; and

FIGS. 14A-14B are a flowchart that illustrates operations carried out for receiving and transmitting images of a homeowner's home, including an offer presented by the viewer, according to an embodiment of the present invention.

DETAILED DESCRIPTION

The following terms are used throughout the present application. For purposes of construction, such terms shall have the following meanings:

The term "homeowner" refers to any person or entity that owns, leases, or rents commercial, residential or other forms of property, including a homeowner who does not intend to sell his or her home.

The term "viewer" refers to a person, including a potential buyer, interested in remotely receiving information associated with homes, such as a picture of a home. Note that a viewer may use any device appropriate to receive the information about the home. For example, a viewer may use a telephone to "view" (i.e., listen to) a recording about a home.

The term "central authority" refers to any party that implements a remote home viewing system, including, for example, an Internet real estate broker or other Internet business (including, for example, service providers such as AMERICA ONLINE®).

The term "unlisted home" refers to a home that is not currently on the market to be sold.

The term "viewing fee" refers to a fee charged to viewers in exchange for viewing pictures of homes through the central authority.

5 The phrases "information about a home," "information associated with a home," "home information" and "compensation information" refer to any information associated with a home or a homeowner, including, by way of example only, a number of rooms in a home, the number square feet in a home, an appraised value of a home, a picture of a home, a level of interest a homeowner has in selling a home and a viewer's interest in
10 purchasing a home.

The term "picture" refers any type of picture, including, for example, a drawing (including a computer-aided drawing), a photograph and video images.

The term "payment" refers to any compensation, such as a credit to a financial account and/or a reduction of a mortgage interest rate, provided to a homeowner in
15 exchange for allowing home information to be transmitted and displayed to a remote viewer.

The term "home" refers to any residential, commercial, or undeveloped property, including, for example, a single family residence, a condominium apartment, a house boat or a recreational vehicle.

20 The following paragraphs illustrate the structural and operational aspects of the present invention. The structural aspects are illustrated first and are followed by discussions of the operational aspects.

In terms of structure, reference is now made to FIG. 1 which is a block diagram of a remote home viewing system 100 that may be used to: store home information about a
25 home (such as a picture); determine a payment to a homeowner; transmit the home information to a remote viewer; collect a payment from the viewer for receiving the information; and/or distribute the determined payment to the homeowner. Although embodiments of the present invention are described herein as transmitting a picture of a home for display, it will be understood that other information about a home may be
30 transmitted in addition to, or in place of, a picture.

The remote home viewing system 100 includes a plurality of homeowner devices 102 and a plurality of viewer devices 104 communicating with a central "server" 106 (i.e., any device that can perform some of the functions described herein) located at a central authority. Those skilled in the art will understand that devices in communication with

each other need not be continually transmitting to each other. On the contrary, such devices need only transmit to each other as necessary, and may actually refrain from exchanging data most of the time. For example, a device in communication with another device via the Internet may not transmit data to the other device for weeks at a time.

5 Although three homeowner devices 102 and three viewer devices 104 are illustrated in FIG. 1, it should be understood that any number of homeowner devices 102 and viewer devices 104 may be included in the remote home viewing system 100. The homeowner devices 102, viewer devices 104 and the central server 106 communicate via a communication network 108, which may comprise, for example, a Local Area Network
10 (LAN), a Wide Area Network (WAN), a Public Switched Telephone Network (PSTN) (e.g., when the “viewer” device is a telephone used to access information about a home), a cable or other television network (e.g., when the viewer device 104 is a television or set-top box), a wireless network or an Internet Protocol (IP) network (e.g., the Internet, an intranet or an extranet). The homeowner devices 102 and the viewer devices 104 may
15 include different types of devices, and/or devices that communicate with the central server 106 through different networks.

In one embodiment, a mortgage broker server 110 communicates with the central server 106 through a data link 112 (shown by a broken line). The central server 106 may communicate with the mortgage broker server 110, for example, to reduce a homeowner’s
20 mortgage interest rate in exchange for the homeowner’s participation in the remote home viewing system 100, as will be described.

FIG. 2 is a block diagram of a homeowner device 102 or a viewer device 104 of FIG. 1 according to an embodiment of the present invention. Each homeowner device 102 and viewer device 104 comprise a processor 114 in communication with an output device
25 116, an input device 118 and a communication port 120. The output device 116 may comprise, for example, a monitor that display instructions or information about a home for viewing by the user. The input device 118 may comprise, for example, a scanner, an input port, keyboard or mouse. The communication port is adapted to exchange information with the central server 106.

30 FIG. 3 is a block diagram of the central server 106 shown in FIG. 1 according to an embodiment of the present invention. The central server 106 may be any computing device that can communicate with one or more homeowner devices 102 and/or one or more viewer devices 104. The central server 106 comprises a processor 122, such as one or more INTEL® Pentium microprocessors.

The processor 122 is coupled to a communication port 132, through which the processor 122 communicates with the viewer devices 104 and/or the homeowner devices 102.

The processor 122 is also coupled to a data storage device 134. The data storage device 134 comprises an appropriate combination of magnetic, optical and/or semiconductor memory, and may include Random Access Memory (RAM), Read-Only Memory (ROM) and/or a hard disk. The processor 122 and the data storage device 134 may be (i) located entirely within a single computer or other computing device or (ii) connected to each other by a remote communication medium, such as a serial port cable, telephone line or radio frequency transceiver. In one embodiment, the central server 106 may comprise one or more computers that are connected to a remote server computer for maintaining databases.

The data storage device 134 stores a program 140 for controlling the processor 122. The processor 122 executes instructions of the program 140, and thereby operates in accordance with the present invention. The program 140 is adapted to be executed by a processor and may be stored in a compressed, uncompiled and/or encrypted format. The program 140 could also include program elements, such as an operating system, a database management system and "device drivers" that let the processor 122 communicate with various devices. Appropriate device drivers and other program elements are known to those skilled in the art, and are not described in detail herein.

The data storage device 134 also stores (i) a home database 400, (ii) a picture database 500, (iii) a viewer database 600, and (iv) a collected demand database 700. The databases 400, 500, 600, 700 are described in detail below and are depicted with entries in the accompanying FIGS. 4A to 7. As will be understood by those skilled in the art, the schematic illustrations and accompanying descriptions of the databases presented herein are merely exemplary arrangements for stored representations of information. Any number of other arrangements may be employed besides those suggested by the tables shown. Similarly, the illustrated entries of the databases merely represent exemplary information, and those skilled in the art will understand that the content of these entries will vary.

The home database 400 maintains a record of each home in the remote home viewing system 100, including, for example, the homeowner's name, a payment determination rule and a financial account identifier associated with each homeowner. The financial account identifier may be associated with, for example, a credit card account

to which a payment can be credited. The financial account identifier may also comprise, for example, a debit card account number, a checking account number, a street address to which a check may be mailed, a mortgage account number or information associated with an electronic currency protocol. The information from this database may also be used to determine a payment amount to provide to the homeowner in exchange for allowing a picture of his or her home to be posted.

The home database 400 also stores information about each home, including, for example, the number of bedrooms and the appraised value of the home. Such information can be used, for example, by the central authority when trying to narrow a viewer's search (e.g., a viewer may be interested only in homes with at least two bedrooms).

The picture database 500 maintains a record for each picture of a home available through the remote home viewing system 100. Each record may include a picture file (or a link to a picture file), a fee for viewing the picture, and a number of times the picture has been viewed by a viewer or viewers.

The viewer database 600 maintains a record of each viewer participating in the remote home viewing system 100, including a financial account identifier corresponding to the viewer. The financial account identifier may identify an account from which a viewing fee can be debited, and may comprise any of the types of information described with respect to the homeowner's financial account identifier. The viewer database 600 also tracks the fees owed by a viewer for viewing pictures of homes via the remote home viewing system 100.

The collected demand database 700 maintains a record of viewer interest in a home. The collected demand database 700 may, in one embodiment, be accessed by a homeowner to gauge the demand for the homeowner's home. When expressing interest in a given home, a viewer may enter viewer information, such as whether the viewer is pre-approved for a mortgage and the price the viewer might be willing to pay for the home. The central authority measures the viewer's level of interest, perhaps rates it, and uses it to determine an overall "demand" for the home (e.g., whether there is a lot of serious interest in purchasing the home at a reasonable price). Note that a viewer's level of interest may be automatically determined by the central authority (e.g., by measuring the number of pictures viewed by a viewer, or the length of time a viewer spends looking at one or more pictures).

The present invention provides a remote home viewing system 100 that encourages a homeowner, who may not be interested in selling his or her home, to display a picture of

the home remotely and anonymously in exchange for receiving a payment. The payment provided to the homeowner is based on compensation information associated with the home. Such information may include, for example, (i) the number of viewers that view the picture of the home, (ii) an appraised value of the home, (iii) the location of the home, (iv) the expected interest of viewers in the home, (v) a level of anonymity maintained with respect to the homeowner or the home, and/or (vi) the current market price of the home. In one embodiment of the present invention, the payment is periodic (e.g., monthly). Note that the central authority may be, for example, (i) a real estate broker for not-for-sale homes only, (ii) a real estate broker for both not-for-sale homes and for-sale homes (e.g., homes that are currently on the market to be sold), or (iii) any other entity.

According to an embodiment of the present invention, the processor 122, in accordance with the program 140, arranges for a homeowner to receive compensation in exchange for allowing home information to be transmitted, the compensation being based on compensation information associated with the home. The processor 122 also arranges for the home information to be transmitted to a viewer.

For example, the processor 122 may, according to an embodiment of the present invention, receive information from a homeowner who wishes to anonymously display a picture of his or her home (e.g., without disclosing his or her name and/or address) in return for a payment determined in accordance with a payment determination rule agreed upon between the homeowner and the central authority. The processor 122 stores information regarding the homeowner and information relating to the homeowner's home in the home database 400 and/or the picture database 500. The processor 122 further transmits the picture, in response to a request from a viewer, to the viewer for a predetermined viewing fee.

The processor 122 may also collect a payment from the viewer. The payment may be collected by, for example, debiting or charging a financial account associated with the viewer. The processor 122 can also credit homeowners' financial account based on the appropriate payment determination rule.

The following paragraphs describe an embodiment of the home database 400. Of course, many changes and alterations may be made to the home database 400, as well as the other databases described herein, to effectuate certain functionality depending on particular design and implementation details. Such changes and alterations will be apparent to those skilled in the art of computer programming and database management system design and implementation.

Referring now to FIG. 4A and 4B, a table represents a tabular embodiment of the home database 400. The table 400 includes entries 402, 404, 406, 408, 410 each defining a home in the remote home viewing system 100 (FIG. 1). Those skilled in the art will understand that the table 400, as well as the other tables described herein, may include any number of entries and may be divided into any other number of tables. Moreover, the tables may be stored on a computer readable medium as data (accessible by a program executable on a data processing system) organized according to a data structure that includes data objects (e.g., any type of data) accessible from other data objects.

The table 400 also defines fields for each of the entries 402, 404, 406, 408, 410.

The fields specify: a home identifier 420; a homeowner name 422; a financial account identifier 424; a payment determination rule 426; total collected fees 428; a payment date 430; a number of bedrooms 432; total square feet 434; a lot size 436; a number of bathrooms 438; additional features 440; a location 442; a location rating 444; a willingness to sell 446; a potential selling price 448; and an appraised value 450.

When a homeowner agrees to allow information associated with his or her home to be transmitted to viewers, a home identifier 420 uniquely identifying the home is generated and assigned to the home. A new record is created in the home database 400 and information about the homeowner (e.g., the homeowner name 422, financial account identifier 424 and payment determination rule 426) is stored in the record in association with the home identifier 420.

Information about the home (such as the number of bedrooms 432, the total square feet 434, the lot size 436, the number of bathrooms 438) is also stored in the record in association with the home identifier 420. Additional features 440 of the home (e.g., whether the home has a pool) are also stored in the home database 400 along with location 442 information and a location rating 444 (e.g., a rating from A to C reflecting the quality of the location of the home). Of course, the location rating may not be stored in the home database 400 but may instead be stored in a separate database (e.g., a database correlating zip codes with location ratings), if desired.

Information about the value of the home (e.g., the potential selling 448 and the appraised value 450 of the home) may also be stored in the home database 400 along with the homeowner's willingness to sell 446 the home (e.g., a rating from 1 to 5 reflecting how willing the homeowner would be to sell the home at the potential selling price 448). The willingness to sell rating may be submitted by the homeowner or assigned by the central system (e.g. based on how close the potential selling price is to the appraised value).

FIG. 4B

In addition to information about the homeowner and information about the home, the home database 400 may be used to store other information that may determine the amount of payment that the homeowner will receive. For example, the home database 400 may store the total collected fees 428 (e.g., the total amount of fees paid by viewers to receive information about that home) and a payment date 430 (e.g., a date on which the central authority will provide the appropriate payment to the homeowner). For example, as shown in record 404 of FIG. 4A, "Doris Jones" is to receive \$2.52 on June 17, 2002 (i.e., 1% of \$252.20).

The payment due to the homeowner from the central authority may be credited to a financial account defined by the financial account identifier 424. For example, with regard to record 402, Doris Jones will receive a payment in accordance with a payment determination rule 426 (i.e., she will receive \$0.05 for each view of a picture of her home) that will be paid on "June 12, 2002" to a financial account defined by the financial account identifier 424 of "1111-2222-3333-4444." Note that when the payment is made to Doris Jones, the total collected fees 428 may be reset to \$0.00. Note also that Doris Jones has two homes listed (i.e., homes associated with the home identifiers 420 of "H-999" and "H-777").

Referring now to FIG. 5, a table represents a tabular embodiment of the picture database 500. The table 500 includes entries 502, 504, 506, 508, and 510 each defining a picture of a home in the remote home viewing system 100. Those skilled in the art will understand that the table 500 may include any number of entries. The table 500 also defines fields for each of the entries 502, 504, 506, 508, and 510. The fields specify: a picture identifier 520 that uniquely identifies a picture of the home; the home identifier 420 (e.g., the same home identifier stored in the home database 400); a picture file 522 containing data comprising (or a filename or filepath of) a picture of the home; a picture viewing fee 524 defining a fee a viewer is required to pay in order to view the picture associated with the picture identifier 520; and a total number times viewed 526 indicating the number of times viewers have viewed the picture.

For example, in table 500, record 502 contains a stored picture file 522 of the kitchen of a home having a home identifier 420 "H-999." Furthermore, the picture viewing fee 524 charged to a viewer is "\$0.25" for each view. The number of times the picture of the kitchen was viewed is "25." Note that some pictures may be available to a viewer without a fee (e.g., as shown in record 506).

Referring now to FIG. 6, a table represents a tabular embodiment of the viewer database 600. The table 600 includes entries 602, 604, 606, 608, 610 each defining a viewer participating in the remote home viewing system 100. Those skilled in the art will understand that the table 600 may include any number of entries. The table 600 also defines fields for each of the entries 602, 604, 606, 608, 610. The fields specify: a viewer identifier 620; a financial account identifier 622 defining a financial account associated with the viewer; and a total viewing fees owed 624 indicating the sum of the viewing fees owed by the viewer to the remote home viewing system 100. Note that after the viewer pays the appropriate total viewing fees owed 624, the total viewing fees owed 624 may be set to \$0.00 (e.g., as shown in record 606).

The following paragraphs describe an embodiment of the collected demand database 700. The collected demand database 700 may be used in the present invention to store records of viewer interest in specific homes. According to an embodiment of the present invention, the collected demand database 700 can be accessed by a homeowner to gauge the demand for his or her home.

In particular, viewers transmit information to the central system 106 regarding their interest in a specific home. Such information may include, for example: (i) whether or not the viewer is approved for a mortgage; (ii) the mortgage amount approved for the viewer; or (iii) a price the viewer may be willing to offer for the home. Such information may be used by the central system or the homeowner to determine the viewer's overall interest in a home.

Referring now to FIG. 7, a table represents a tabular embodiment of the collected demand database 700. The table 700 includes entries 702, 704, 706, 708, 710 each defining a viewer's interest in or "demand for" a particular home. Those skilled in the art will understand that the table 700 may include any number of entries. The table 700 also defines fields for each of the entries 702, 704, 706, 708, 710. The fields specify: the home identifier 420 (e.g., as stored in the home database 400); the viewer identifier 620 (e.g., as stored in the viewer database 600); a level of interest 720 reflecting a level of interest the viewer has expressed in the home; a mortgage pre-approval 722 indicating if the viewer has been pre-approved for a mortgage, as indicated by the viewer or determined by the system; an offer price 724 indicating the price the viewer may be willing to pay for the home; and a date of offer 726 indicating the date on which the offer was received from the viewer.

The level of interest 720 entries are depicted as either “Bronze,” “Silver,” or “Gold.” Of course, another format may be used to indicate the level of interest a viewer expresses in a home. The level of interest may be, for example: (i) directly specified by the viewer (e.g., selected from a menu of available levels of interest); or (ii) assigned by the central server 106. If the level of interest is assigned by the central server 106, it may be assigned based on, for example: (i) how many pictures of the home the viewer viewed; (ii) the length of time the viewer spent viewing the pictures; (iii) how closely the offer price 724 matches the appraised value 450 or the potential selling price 448 of the home; (iv) whether the viewer sends a request for more information (e.g., by e-mail) to the central server; and/or (v) whether the viewer is pre-approved for an appropriate mortgage (e.g., whether the pre-approved mortgage amount is at least equal to the appraised value 450 of the home). Whether or not the viewer is pre-approved for a mortgage may be stored based on an indication by the viewer. According to one embodiment of the present invention, the central server 106 verifies that the viewer is in fact pre-approved for a mortgage by communicating with the mortgage broker server 110. In another embodiment of the present invention, the central server 106 may be operated by a mortgage broker rather than, or in conjunction with, a real estate broker and may pre-approve the viewer for a mortgage when the viewer submits an offer to the central server 106. Additionally, the collected demand database 700 may further store the mortgage amount approved for the viewer.

For example in record 702, the viewer having a viewer identifier 620 of “B-23-45” has submitted an offer price 724 of “\$125,000” on “April 5, 1999.” Viewer “B-23-45” is pre-approved for a mortgage and has shown a level of interest 720 of “bronze.” The level of interest 720 may be indicated in a number of ways, e.g., a numeric scale from one to ten with ten being the most interested and one being the least interested. In the embodiment shown in table 700, “Gold,” “Silver” and “Bronze” are used to define a viewer’s interest, with “Gold” being the most interested and “Bronze” being the least interested.

The aforementioned described structural aspects and corresponding components of embodiments of the present invention. Accordingly, it should be understood that the homeowner device 102 and viewer device 104 of the remote home viewing system 100 shown in FIGS. 1-3 and the database tables illustrated in FIGS. 4A-7 may operate and function together. The flowcharts depicted in FIGS. 8-14B, described below, illustrate how such structures operate together according to embodiments of the present invention. In particular, described below are the steps carried out by the remote home viewing system

100 to display pictures of a homeowner's home to a viewer via a network, such as the Internet, and provide compensation to the homeowner in accordance with a payment determination rule.

FIG. 8 is a flowchart that illustrates the steps of a process performed by a data processing system, such as remote home viewing system 100, for receiving and transmitting information associated with a homeowner's home according to an embodiment of the present invention. The computer programming necessary to carry out many of the functions stated below, including those described with respect to the flowcharts, will be readily apparent to those skilled in the art of computer programming.

Processing starts at step S8-1, where the central server 106 receives from a homeowner a willingness to allow home information (e.g., a picture of the home) to be transmitted. As previously described, the homeowner communicates with the central server 106 via a homeowner device 102 to accept an offer to display pictures of the homeowner's home. According to other embodiments of the present invention, the homeowner can communicate with the central server 106 in other ways, such as by using a telephone, a facsimile machine, an e-mail message or regular mail service.

Thereafter, processing proceeds to steps S8-2 and S8-3, where the central server 106 receives a picture or pictures of the homeowner's home and determines a payment rule based on information associated with the homeowner's home. Determining the payment rule may comprise, for example, retrieving the payment rule used by the system 100 from a database. At step S8-4, the central server 106 stores the homeowner information and the determined payment rule in the home database 400. In addition, the picture or pictures of the homeowner's home are stored in the picture database 500. The homeowner may submit pictures of his home or the system 100 may send a person out to the home to take appropriate pictures.

At step S8-5, the central server 106 transmits the picture or pictures of the homeowner's home to a viewer in response to a request by the viewer to view the pictures via a viewer device 104. At step S8-6, the proper compensation or payment, as defined by the payment determination rule 426 stored in the home database 400, is distributed to the homeowner.

FIG. 9 is a flowchart that illustrates the steps of a process performed by a data processing system, such as remote home viewing system 100, for storing a homeowner's home records in the home database 400 according to an embodiment of the present invention.

Processing starts at step S9-1, where the central server 106 transmits an offer, including a payment determination rule, to display pictures of a homeowner's home in exchange for a payment (e.g., a periodic payment). The central server 106 may contact a homeowner using, for example, an e-mail solicitation, a direct mailing letter or an advertisement on another Web site. For example, the central authority can place a banner on a Web site that says, "Earn up to \$20 a month for posting anonymous video images of your home at our Web site." At step S9-2, the central server 106 receives an indication from the homeowner that the homeowner is willing to allow information about the home to be transmitted to viewers. Thereafter, processing proceeds to step S9-3, where the processor 122 of the central server 106 receives preliminary homeowner information such as homeowner's name, address and a financial account identifier associated with the homeowner. The central server 106 may then receive information about the home from the homeowner. This information may include, for example, features of the home such as the date the home was built, the style, the number of bedrooms, the number of bathrooms, the lot size (e.g., the number of acres of land), and any distinguishing features. When the central server 106 receives enough information about the homeowner's home, an appropriate payment determination rule can be established.

According to one embodiment, fees collected from viewers (less a percentage taken by the central authority) are converted into a periodic payment distributed to the homeowner. The terms of the agreement may involve, for example: (i) a one-time or periodic payment based on information associated with the home; (ii) a periodic payment amount based on the number of times a viewer receives information about the home; and (iii) a payment based on a predetermined percentage of the total amount of viewing fees collected. Further, the amount of the payment may be determined by, for example: (i) the popularity of the area of the home (e.g., based on a zip code, distance from a city or school district); (ii) a predicted level of interest in the home based on its market value, neighborhood, condition, etc.; or (iii) a number of people who look at photographs and/or video images of the home displayed on the site.

In another embodiment, the amount of the payment may be based on an appraised price of the home. For instance, the home may be appraised by an appraiser (and verified by the central authority) when information about the home is entered into the central server 106. The central server 106 may further require the homeowner to name a potential selling price at which he or she would sell the home. The amount of the periodic payment may be determined by how close the named price is to the appraiser's price (e.g., the

periodic payment is larger if the homeowner sets a potential selling price close to the appraised price). The central authority then enters the homeowner's name into the home database 400. In such an embodiment, the homeowner may pay a penalty if he or she rejects an offer to purchase the home that is at least equal to the potential selling price.

5 At step S9-4, the processor 122 creates a new record in the home database 400 that includes the preliminary homeowner information. The processor 122 assigns a unique identifier to the home and stores the identifier in the home identifier 420 field of the home database 400. A payment date 430 may also be stored in the home database 400 (e.g., the date on which the central authority will provide a payment to the homeowner).

10 At step S9-5, the processor 122 receives one or more pictures of the homeowner's home. The central authority may obtain pictures of the homeowner's home by, for example: (i) arranging to take photographs or video images of the home; (ii) receiving photographs or video images of the home taken by the homeowner or anyone other than the central authority; and/or (iii) receiving blueprints of the home submitted by the
15 homeowner and creating computer-aided drawings (e.g., two or three dimensional drawings).

At step S9-6, the processor 122 generates and assigns a picture identifier 520 to each picture to be stored in the picture database 500. At step S9-7, the processor 122 determines a picture viewing fee 524 for each picture and stores the amount in the picture
20 database 500. For example, in record 502, the fee to view the picture of the "kitchen" is "\$0.25" for each view. In record 508, the stored picture is a video image "tour" and the picture viewing fee 524 is determined by the duration that the viewer views the video images. Specifically, the first "30 seconds" of video images is free and each subsequent "30 seconds" of video images costs "\$0.25." At step S9-8, the processor 122 of the central
25 server 106 stores the picture identifiers 520 and the respective viewing fees 524 in the picture database 500.

FIGS. 10A-10B are a flowchart that illustrates the steps of a process performed by a data processing system, such as remote home viewing system 100, for displaying pictures stored in the picture database 500. This illustrated embodiment is one wherein a
30 standard amount of information is provided to a viewer (e.g., an exterior picture along with some general information about the home) without charge, but additional pictures cost an additional fee to view. If a viewer is interested in seeing more pictures of a particular home, he or she can select the picture (e.g., by using a mouse to "click" on a thumbnail picture or link). The central server 106 displays to the viewer the associated

fees for viewing the pictures, and the viewer can then indicate one or more of the additional pictures. According to another embodiment, the viewer can provide payment for a session of viewing pictures viewed, or can pay a fee to view a batch of pictures instead of paying for each single picture viewed.

5 According to an embodiment of the present invention, a viewer can initially select any picture in the home (e.g., a picture of the kitchen), and that first picture is free. If the viewer desires to see more pictures of the same home, then the viewer is charged for the additional pictures. The viewer, in this embodiment, essentially must reach/exceed a threshold level of interest before the viewer is charged any fee. The threshold may
10 comprise, for example, a length of time a picture (including video images) is viewed, a predetermined number of pictures viewed, a predetermined picture viewed, or a particular type of picture (e.g., an interior picture) viewed. Once the remote home viewing system
100 determines that the viewer has reached the threshold level of interest, additional pictures may require a viewing fee.

15 Processing starts at step S10-1 where the processor 122 transmits information associated with a first picture stored in the picture file 522 of the picture database 500 to the viewer device 104 (that is, the processor 122 “arranges” for the picture to be displayed via the viewer device 104). At step S10-2, the processor 122 receives an indication from the viewer device 104 requesting at least one additional picture from the picture database
20 500 associated with the first picture. Accordingly, the processor 122 retrieves a picture viewing fee 524 associated with the requested picture from the picture database 500 at step S10-3. At step S10-4, the processor 122 transmits the viewing fee amount to the viewer.

The viewing fee for the pictures may be, for example: (i) constant for each picture; (ii) variable depending on how many pictures of the same home have already been
25 viewed; or (iii) variable depending on the popularity of the home (e.g., how many other viewers have viewed pictures of the home). In one embodiment, different viewing fees are charged for different pictures of a not-for-sale home. For example, the kitchen picture may cost more than the bathroom picture. Alternately, the pictures may have the same viewing fee, however the more pictures a viewer wants to view, the more expensive the
30 pictures become. For example, after the initial free picture of the exterior of the home, the viewer pays \$0.50 to see the foyer. If the viewer wants to see another room, then he pays \$0.75. The next room is still more expensive, etc. Alternatively, the pictures could become less expensive as they are viewed. In one embodiment a display of “thumbnail”

pictures of the home may be displayed for no charge, but larger prints of each of the thumbnail-sized pictures require a fee to be viewed.

In another embodiment, a viewer pays a viewing fee to see a level of pictures rather than a specific picture. Pictures may be given levels when they are received from the homeowner and are stored in the picture database 500 in a particular "level." Different viewing fees are charged for viewing different levels. For example, the system could contain only two levels: a "free" level and a "viewing fee required" level. The free level may consist of, for example, an exterior picture of the home and descriptive information about the home. The viewing fee required level may consist of, for example, more detailed pictures of the home.

In another embodiment, the viewing fee a viewer is charged to view pictures of a homeowner's home may comprise an agreement to display pictures of his own home, e.g., "Pay a viewing fee to see more pictures of this home, OR view them for free in exchange for pictures of YOUR home!"

At step S10-5, if the viewer does not accept the viewing fee amount, the viewing process is ended as shown in step S10-6. If the viewing fee is accepted, the viewer provides viewer information that is received by the processor 122, as shown in step S10-7. For example, in record 602 of the viewer database 600, the viewer having a viewer identifier 620 of "B-23-45" provides a financial account identifier 622 associated with a financial account from which the viewing fees are deducted. The viewer identifier is typically assigned and the credit in the financial account may be verified. At step S10-8, the viewer information is then stored in the viewer database 600. The processor 122 in step S10-9 transmits the additional picture selected by the viewer to the corresponding viewer device 104 for viewing. In step S10-10, the amount of the picture viewing fee 524 stored in the picture database 500 is charged to the viewer's financial account identifier 622.

In step S10-11, the total viewing fees owed 624 in the viewer database 600 is increased by the amount of the picture viewing fee 524. In addition, the number of times viewed 526 associated with the requested picture in the picture database 500 is incremented by one. The processor 122 further updates or increments the amount in the total collected fees 428 in the home database 400 (although this may not be performed until the central authority actually receives payment from the viewer). The processor 122 in step S10-12 then stores an indication of the viewer's interest in the collected demand

database 700 in association with the home identifier 420 of the home whose pictures are being viewed.

FIG. 11 is a flowchart that illustrates the steps of an embodiment of the process performed by a data processing system, such as remote home viewing system 100, for providing a payment to a homeowner according to an embodiment of the present invention.

Processing starts at step S11-1 where the processor 122 retrieves a record from the home database 400. At step S11-2, the processor 122 checks the payment date 430 field of the home database 400 to determine whether the time period/due date has been fulfilled. If not, the process ends at step S11-3. If the time period has been fulfilled (e.g., it is the date on which the central authority has agreed to provide a payment to the homeowner), the processor 122 at step S11-4 retrieves the total collected fees 428.

At steps 12-5 and 12-6, the processor 122 retrieves the rule of the payment determination rule 426. The payment determination rule 426 is then applied to the total collected fees 428 to determine the payment amount to the homeowner. Specifically, these steps are performed when the payment determination rule 426 defines payment as, for example, a percent of the total collected fees 420. Note, however, that the compensation provided to the homeowner may be based on any type of compensation information.

For example, the compensation may be based on the number of times a picture of a home is viewed by viewers. Alternatively, the payment amount may be based on the popularity of the geographic area of the home. Homeowners may receive a payment that is, for example: (i) a percentage of the total amount received from viewers in a defined amount of time; (ii) a flat rate for each time a picture is viewed; (iii) a minimum amount; (iv) a fixed amount; or (v) a combination of any of these. For example, a viewer may receive 50% of the money collected by the central authority for displaying pictures of the homeowner's home. The payment provided to the homeowner may be based on (i.e., based at least partly on) information associated with the home, including, for example: (i) information associated with the value of the home; (ii) information associated with the popularity of the home; (iii) information associated with the amount (or type) of information provided by the homeowner to the remote viewing system and/or to viewers; (iv) the homeowner's willingness to sell the home; and/or (v) any other information related to the home, the location of the home, the homeowner, etc. The payment is not necessarily related to the collected viewing fees.

In one embodiment, the payment is distributed to the homeowner monthly, in the form of a discount off of a mortgage, but a homeowner may also be paid non-periodically (e.g., once, when the homeowner first agrees to participate in the remote home viewing system 100) in place of, or in addition to, periodic payments.

5 For example in record 404, "Doris Jones" will receive \$2.52 (i.e., 1% of \$252.20) on June 17, 1999. Note that such payments may be rounded up (or down) or may be accumulated until a predetermined amount of payment is owed to the homeowner (e.g., the central authority may wait until the a payment of \$5.00 is owed to the homeowner). Alternatively, the payment determination rule may be applied to the number of times
10 viewed 534 field of the picture database 500. For example, in record 402 "Doris Jones" will receive \$1.25 (i.e., \$0.05 for each of the 25 number of times viewed 526 stored in the picture database 500). After the payment amount is determined, the processor 122 transmits the determined payment amount to the financial account of the homeowner identified in the financial account identifier 424 field of the home database 400.

15 Finally, at step S11-8 the processor 122 updates information associated with the home database 400 and picture database 500. For example, the payment date 430 is updated to the next scheduled payment due date.

FIGS. 12A-12B are a flowchart that illustrates the steps of an embodiment of the process performed by a data processing system, such as remote home viewing system 100,
20 for storing and displaying video images of a homeowner's home.

Processing starts at step S12-1, where the processor 122 receives from a homeowner a willingness to allow home information to be provided to a viewer. At step S12-2 and step S12-3, the processor 122 receives video images of the homeowner's home associated with an assigned homer identifier 420. The homeowner information as
25 described herein and the video images are stored, at step S12-4, in the home database 400 and picture database 500, respectively.

At step S12-5, the video images are divided into predetermined periods of time. This may be done, for example, by simply dividing the video images into thirty second portions. More advanced divisions, such as divisions based on changes in scene, may be
30 performed, such as with the use of VIDEOLOGGER® 3.0 software available from Virage Inc. of San Mateo, California. The processor 122 at step S12-6 determines a picture viewing fee 524 for each of the divisions of the video images and stores the fee in the picture database 500. For example in record 508, a viewer may view the video images for

“\$0.25” for each “30-second” length of the video images after the initial thirty seconds (which are free).

At step S12-7, the processor 122 displays a portion of the video images in response to a request by a viewer free of charge. In response to receiving an indication by a viewer to display additional portions of the video images at step S12-8, the processor 122 in steps S12-9 and S12-10 retrieves the picture viewing fee 524 and informs the viewer about the fee (e.g., by transmitting the picture viewing fee 524 value to the viewer).

If the viewer does not accept the picture viewing fee at step S12-11, the process ends at step S12-12. If the viewer does accept the picture viewing fee, at step S12-13 and S12-14 the processor 122 retrieves the viewer financial account identifier 622 from the viewer database 600 and transmits an additional portion of the video images to the viewer. If the viewer is a new viewer, the system assigns him an identifier and receives his financial account information. If the viewer has used the system 100 before, the system 100 may recognize him by, for example, his password or a “cookie”. In the alternative, a timer can begin running when a viewer accesses the video images, and when the timer reaches a predetermined time period (e.g., thirty seconds), the viewer is prompted to pay a viewing fee.

At step S12-15, the processor 122 charges the viewer’s financial account the appropriate fee for viewing the video images. Information, such as an indicated level of interest and an offer price, is stored as an indication of the viewer demand in association with the home identifier 420 in the collected demand database 700 at step S12-16 and the appropriate payment is provided to the homeowner at step S12-17.

FIGS. 13A-3B are a flowchart that illustrates the steps of a process performed by a data processing system, such as remote home viewing system 100, for collecting demand according to an embodiment of the present invention.

Processing starts at step S13-1, where the processor 122 transmits a picture, associated with a picture viewing fee 524, to the viewer. The processor 122 at step S13-2 debits the amount of the picture viewing fee 524 using the financial account identifier 622 from the viewer database 600.

At step S13-3 the processor 122 receives an indication to provide further information regarding the home associated with the transmitted picture. Data from the home database 400 is then retrieved and transmitted to the viewer at steps S13-4 and S13-5. The processor 122 then transmits a prompt to the viewer at step S13-6 requesting the viewer provide an offer price for the associated home. According to an embodiment of the

present invention, the viewer is not bound to buy the homeowner's home if the homeowner accepts the offer price. The offer price may be used, for example, to collect information associated with the demand of the home (e.g., the offer price may be hypothetical). The viewer may, however, be obligated to go see the home and/or enter into negotiations with the homeowner to buy the home if the homeowner finds the offer price acceptable.

If an offer price is not received in step S13-7, the process ends at step S13-8. If an offer is received, the processor 122 transmits at step S13-9 a prompt requesting a level of interest rating for the home from the viewer. According to an embodiment of the present invention, the level of interest may be determined by the system and not by the viewer.

If the level of interest rating is not received at step S13-10, then the processor 122 receives and stores collected demand information in the collected demand database 700 at step S13-12. If the level of interest is received, then a prompt is transmitted to the viewer asking the viewer if the viewer is pre-approved for a mortgage at step S13-11. According to an embodiment of the present invention, the viewer may be prompted for information that allows the system to pre-approve the viewer for a mortgage, or it may be determined based on the identity of the viewer whether the viewer is pre-approved (e.g., by accessing a database using the viewer's Social Security number).

At step S13-12, the processor 122 receives and stores collected demand information in the collected demand database 700.

FIGS. 14A-B illustrate the steps of a process performed by a data processing system, such as remote home viewing system 100, for receiving an offer price from a viewer and notifying homeowner of viewer's interest in purchasing the homeowner's home.

In one embodiment, the homeowner can set a minimum price at which he may sell his home if somebody offers that price. This price could be well above market value if the homeowner is not currently interested in selling his home. If a viewer pays to see the pictures of the home and offers a price that matches or tops the homeowner's minimum price, then the central server 106 notifies the homeowner and the homeowner decides whether to sell his home. The viewer may be informed of the homeowner's minimum price when submitting an offer price.

In another embodiment, a homeowner names a price at which he would sell his or her home (and this price may be hidden from viewers). If a viewer offers at least as much as the homeowner's named price, the homeowner may be bound to sell his home.

Alternately, a penalty is imposed on the homeowner if he refuses to sell his home (e.g., a percentage increase in the homeowner's mortgage is imposed). According to another embodiment of the present invention, a viewer is also be bound when an offer is accepted by a homeowner. This may, of course, be contingent on the actual condition of the home as compared to the information about the home provided by the homeowner.

In another embodiment, a homeowner indicates how willing he would be to sell his home if a viewer is interested. The homeowner's willingness is given a rating that is stored in the home database 400. For example, the rating is "A" for willing, "B" for reluctant and "C" for not willing at all. The homeowner also gives a minimum price at which he would be willing to sell his home. This information can be used in descriptions of the homes or it can be used as a guideline for the central authority to determine when to inform the homeowner of a viewer's interest. For example, if a homeowner has rating "A" and a viewer offers to pay a price equal to or above the set minimum price, the central authority informs the homeowner of the offer by means of an indication on the real estate site, a telephone call, or an indication on the monthly payment. If the homeowner has a rating "C" and a viewer offers to buy the home for a price equal to or above the set minimum price, the system can determine whether to send the offer information to the viewer based on other factors such as how much the offered price is above the minimum price. A homeowner can receive a greater amount of payment for including information about his willingness to sell. For example, the central authority prompts the homeowner for a rating of willingness, and if the homeowner agrees, he can be given a greater percentage of the collected fees. Alternately, the homeowner can be given a higher periodic payment based on the rating of willingness he gives himself, e.g., more payment for an "A" rating than a "B" rating. If the homeowner decides to accept an offer from a viewer, the transaction is completed in a conventional fashion.

Processing starts at step S14-1, where the processor 122 receives an indication of an offer acceptance from a homeowner to display pictures of the homeowner's home. At steps S14-2 and S14-3, the processor 122 receives pictures of the homeowner's home from the homeowner and a rating of a willingness to sell 446 and a potential selling price 448 from the homeowner. The received information is then stored in the home database 400.

At step S14-5, the processor 122 displays pictures of a homeowner's home to a viewer. The processor 122 then receives from the viewer an indication of interest in purchasing the home, and an offer price from the viewer at steps S14-6 and S14-7. If the viewer's offer price is less than the homeowner's potential selling price 448 at step S14-8,

then the collected demand information is stored in the collected demand database 700 at step S14-9. If the viewer's offer price is greater than or equal to the homeowner's selling price, the processor 122 retrieves the rating of willingness to sell 446 the home from the home database 400 at step S14-10.

5 If the rating is above a predetermined level at step S14-11, the processor 122 transmits to the homeowner a notification of viewer's interest to buy the home at step S14-12. If not, then the collected demand information is stored in the collected demand database 700 at step S14-9.

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10 Thus, embodiments of the present invention let a homeowner collect receive payment(s) for agreeing to anonymously let information (e.g., a photograph and/or video images of the features of a home) about his home be provided to a viewer who may, in some cases, pay to receive information about not-for-sale homes that meet certain viewer-set criteria. The present invention may also help anticipate future homes that will be placed on the market. For example, if a homeowner is considering a job transfer that
15 requires relocation, he or she may have an additional incentive to sell a home if the demand level for his home is already known. Thus, this invention may create a market for homes that are otherwise not for sale. Furthermore, viewers may use the system to formulate ideas and preferences for features of homes, and real estate brokers may better anticipate what potential buyers prefer in a home.

20 To further the anonymity of a homeowner, identifying information about a home may be deleted from the displayed picture of the home. For example, the license plate on a car, a mailbox number, a family picture, a local landmark, etc. may be removed from the picture. When pictures are received by the central authority, the central authority can remove identifying information before the picture is displayed to a viewer. For example,
25 the central authority can manually review pictures and remove identifying information.

In addition, homeowners can indicate how much information they are willing to give out regarding the location of their home (e.g., they can select the level at which their anonymity will be maintained). For example, four levels of anonymity may be offered to homeowners: region, state, county, and town. The payment given to a homeowner could
30 be partially based on which of the four levels is chosen.

sub 25
In one embodiment, viewers may send anonymous e-mails, via the central server, to the homeowners. These e-mails serve to convey general demand and can even be request to see the homeowner's home. The homeowner can choose to respond to e-mails from viewers. The homeowner can also submit rules to the central server about criteria

